



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/634,257	08/05/2003	Masami Tamura	4041J-000745	3814
27572	7590	12/14/2005		
HARNESS, DICKEY & PIERCE, P.L.C. P.O. BOX 828 BLOOMFIELD HILLS, MI 48303			EXAMINER KLEBE, GERALD B	
			ART UNIT	PAPER NUMBER
			3618	

DATE MAILED: 12/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/634,257	Applicant(s) TAMURA ET AL.	
	Examiner Gerald B. Klebe	Art Unit 3618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10/07/2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) 5-7 and 13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 8-12, 14 and 15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 August 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

G B Klebe
5 December 2005

Attachment(s)

- | | |
|---|---|
| <p>1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)</p> <p>2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</p> <p>3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>08/05/03; 11/21/03</u>.</p> | <p>4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____</p> <p>5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)</p> <p>6) <input type="checkbox"/> Other: <u>ATTACHMENT: EXAMINER'S MARK-UP OF FIGURE 3 OF US PAT 6,405,819 B1</u></p> |
|---|---|

DETAILED ACTION

Election / Restriction Response

1. Applicant's election without traverse filed 10/07/2005 of Species I, Figures 1-3, claims 1-4, 8-12, and 14-15 reading thereon, is acknowledged.

Since the election is made without traverse, the restriction is held to be proper and claims 5-7 and 13 are hereby withdrawn from further consideration as being drawn to non-elected species. An examination on the merits of claims 1-4, 8-12 and 14-15 follows.

Specification - Objection(s)

2. a. The specification at page 1, lines 3-5 attempts to incorporate by reference to a foreign-language document. The incorporation of essential material in the specification by reference to an unpublished U.S. application, foreign application or patent, or to a publication is improper. Applicant is required to amend the disclosure to include the material incorporated by reference, if the material is relied upon to overcome any objection, rejection, or other requirement imposed by the Office. The amendment must be accompanied by a statement executed by the applicant, or a practitioner representing the applicant, stating that the material being inserted is the material previously incorporated by reference and that the amendment contains no new matter. 37 CFR 1.57(f).

b. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: Claim 10 at line 3 and claim 11 at line 15 use the phrase "from adhering to the tank". Although this phraseology is also used in the specification to describe the attribute of the cover member in directing foreign materials toward the core portion and away from the tank

Art Unit: 3618

portion of the heat exchanger, there is nothing in the disclosure that evidences capabilities of the cover member in preventing adhesion of the foreign materials to the tank; what appears to be supported by the disclosure is that the cover member directs the air such that any foreign materials carried along by the directed air stream are directed away from the tank and therefore the particles would not impinge upon the tank.

Appropriate correction is required. No new matter should be entered.

Drawings - Objection(s)

3. The drawings are objected-to for the following informalities: Figures 7 and 8 are labeled "Related Art"; these should, instead, be labeled as --Prior Art--.

Appropriate correction is required.

INFORMATION ON HOW TO EFFECT DRAWING CHANGES

Replacement Drawing Sheets

Drawing changes must be made by presenting replacement sheets which incorporate the desired changes and which comply with 37 CFR 1.84. An explanation of the changes made must be presented either in the drawing amendments section, or remarks, section of the amendment paper. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). A replacement sheet must include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of the amended drawing(s) must not be labeled as "amended." If the changes to the drawing figure(s) are not accepted by the examiner, applicant will be notified of any required corrective action in the next Office action. No further drawing submission will be required, unless applicant is notified.

Identifying indicia, if provided, should include the title of the invention, inventor's name, and application number, or docket number (if any) if an application number has not been assigned to the application. If this information is provided, it must be placed on the front of each sheet and within the top margin.

Annotated Drawing Sheets

Art Unit: 3618

A marked-up copy of any amended drawing figure, including annotations indicating the changes made, may be submitted or required by the examiner. The annotated drawing sheet(s) must be clearly labeled as "Annotated Sheet" and must be presented in the amendment or remarks section that explains the change(s) to the drawings.

Timing of Corrections

Applicant is required to submit acceptable corrected drawings within the time period set in the Office action. See 37 CFR 1.85(a). Failure to take corrective action within the set period will result in ABANDONMENT of the application.

If corrected drawings are required in a Notice of Allowability (PTOL-37), the new drawings MUST be filed within the THREE MONTH shortened statutory period set for reply in the "Notice of Allowability." Extensions of time may NOT be obtained under the provisions of 37 CFR 1.136 for filing the corrected drawings after the mailing of a Notice of Allowability.

Claim Rejections - 35 USC Sec. 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 11 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Ohkura et al. (US 6405819).

Ohkura et al. discloses a front end structure of a vehicle (refer Fig 1) comprising: (**re: claim 11**) a grill (Fig 3; comprised of items 1, 3, 3a, and 8a) provided at a front end of the vehicle, wherein the grill defines an opening (6) through which air is introduced; a heat exchanger located adjacent to the grill in an engine compartment (Fig 8, item 11; see also Fig 12), wherein the heat exchanger has a core portion (5) for performing heat exchange between the air and a fluid flowing inside of the core portion, and a tank (item "D"; **refer to the examiner's marked-up version of Fig 3 attached hereto** to the Office Action) connected to an end of the core portion; and a cover member (examiner's indicated item "A" on the marked-up version of

Art Unit: 3618

Fig 3 attached hereto; item "A" is considered to be a sectional view of the front upper cross member of the vehicle shown in Fig. 7) including a wall (taken as the bottom, or underside of item "A"), wherein the wall is disposed such that its first end ("B") is adjacent to a boundary between the core portion (5) and the tank ("D") and its second end ("C"), which is opposite to the first end, is adjacent to an end of the opening (6), so that the cover member directs the air passing through the grill toward the core portion and restricts foreign materials from [adhering to] impinging on (examiner's interpretation) the tank (as indicated in the figure 3 by the arrow(s) depicting the airflow through 6 and onto the core portion 5 of the heat exchanger); and (re: claim 15) wherein the tank ("D") is connected to a top end of the core portion (5) and the second end ("C") of the wall is adjacent to a top end of the opening (6).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, and 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohkura et al. (US 6405819).

Ohkura et al. ("Ohkura") teaches a cover structure (refer Fig 3; see Examiner's marked-up copy of figure 3 of the reference found attached to this Office Action) for a heat exchanger located adjacent to an opening (item 6) through which air is introduced and which has a core portion (item 5) for performing heat exchange and a tank (labeled "D" by the examiner) connected to the core portion, the cover structure comprising: (re: claim 1) a cover member

Art Unit: 3618

(labeled as item “A” in the attached examiner’s mark-up of Fig 3 of the reference; item “A” is considered to be the front upper cross member of the vehicle, shown in Fig 7) including a wall (taken as the bottom side of “A”) that has a first end (labeled as “B” by the examiner) and a second end (labeled as “C” by the examiner) opposite to each other, wherein the cover member (“A”) is disposed such that the first end (“B”) is adjacent a boundary between the core portion (5) and the tank (labeled as “D”) and the second end (“C”) is adjacent to the opening (6) so that the wall (the bottom side of “A”) directs the air passing through the opening toward the core portion (as indicated by the arrow(s) in the figure which represent the direction of airflow through opening (6) below the cover member (“A”) as the air impacts the core portion (5) of the heat exchanger below the tank (“D”); and (**re: claim 8**) wherein the tank (“D”) is located on the top of the core portion (5) and the second end of the wall (“C”) is located adjacent to a top end of the opening (6); and (**re: claim 10**) wherein the cover member (“A”) is disposed such that the wall restricts foreign materials passing through the opening (6) from [adhering to] impinging on (**examiner’s interpretation**) the tank.

b. Regarding the further limitation of claim 1 wherein the heat exchanger tank is recited as being resinous, **and regarding the limitation of claim 9** wherein the tank is made of the nylon 66 resin, Ohkura is silent as to the material of the tank. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have made the tank of a resin material and the nylon 66 resin in particular, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended uses as a matter of obvious design choice and the use of nylon 66 material in heat exchanger manufacture is known. *In re Leshin*, 125 USPQ 416.

Art Unit: 3618

8. Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohkura et al. (US 6405819) in view of Ide et al. (US 4485882).

As discussed above, Ohkura et al. ("Ohkura") teaches a cover structure for a heat exchanger that includes all of the features of claim 1 from which claims 2-4 depend. Ohkura lacks explicit disclosure of how the heat exchanger is supported on the vehicle frame.

However, (**re: claim 2**) Ide et al. teaches a vehicle having a heat exchanger (Figs 1 and 2, item 6) disposed in the engine compartment (item 2) of the vehicle wherein the heat exchanger is supported at its top portion on the front upper cross member (item 1a) of the vehicle frame.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the instant invention was made to have supported the upper portion of the heat exchanger of Ohkura from the front upper cross member (taken as item "A" in the examiner's marked-up version of Fig 3 of the reference) in accordance with the teachings of Ide et al. in order to secure the upper portion of the heat exchanger in the vehicle engine compartment as an obvious engineering choice based upon the common knowledge in the art.

Regarding the features of claims 3 and 4, wherein (**re: claim 3**) the cover member has a protrusion and the frame is formed with a hollow wherein the cover member is fixed to the frame by engagement of the protrusion with the hollow, Ohkura teaches the use of machine screws, clips and like fasteners to fasten substructures of the various vehicle systems found in the engine compartment to the frame of the vehicle (refer col 8, lines 37-61) so that it would have been obvious to one of ordinary skill in the art at the time the instant invention was made to have modified the disclosure of Ohkura to explicitly describe the connection of the cover member haveig a built-in protrusion to engage a built-in aperture in the frame or (**re: claim 4**) wherein

Art Unit: 3618

the protrusion is on the frame and the aperture of connection is in the cover member as an mere obvious reversal of parts based upon design choices commonly known in the art.

9. Claims 12 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohkura et al. (US 6405819) in view of Ide et al. (US 4485882).

As discussed above, Ohkura teaches all of the features of claim 11 from which claim 12 depends. Ohkura lacks explicit disclosure (**re: claim 12**) of how the heat exchanger is supported in the engine compartment by the frame of the vehicle.

However, Ide et al. teaches a vehicle having a heat exchanger (6) supported in the engine compartment by the front upper cross member (1a) of the frame of the vehicle wherein a cover member including a wall disposed with one end adjacent to a boundary between the core portion of the heat exchanger and the tank and a second end of the cover member wall adjacent an opening admitting air to the core of the heat exchanger and preventing the air from flowing to or over the tank of the heat exchanger.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the instant invention was made to have modified the disclosure of Ohkura in accordance with the teaching of Ide et al. by explicitly showing the heat exchanger supported by the frame (taken by the examiner as the front upper cross member 44 in Ohkura with cross-section being item "A" as seen in the examiner's marked-up copy of Fig 3 attached hereto) whereby the cover member (taken as being item "A" is clearly fixed to the frame as being an integral part of the frame, being simply the section of the frame as seen in Fig 3).

Regarding claim 14 wherein the tank is made of a resin material nylon 66, the examiner takes Official Notice that it is old and well-known in the art to use resin materials to form parts

Art Unit: 3618

of the heat exchangers of vehicles including materials made of nylon 66. Therefore it would have been obvious to one of ordinary skill in the art at the time the instant invention was made to have formed the tank of the heat exchanger from nylon 66 material as an obvious design choice based on engineering considerations of manufacturing costs versus life-cycle maintenance and replacement costs.

Prior Art made of Record

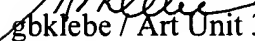
10. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure. The prior art of Yamada; of Peter; of Ozawa et al.; of Freeland; of Suwa et al.; of Horiuchi; of Mashio et al.; of Suzuki; and of Omote each show features in common with some of the other structures of the inventive concept disclosed in the instant application.

Conclusion

11. Any inquiry concerning this or earlier communication(s) from the examiner should be directed to Gerald B. Klebe at 571-272-6695; Mon.-Fri., 8:00 AM - 4:30 PM ET, or to Supervisory Patent Examiner Christopher P. Ellis, Art Unit 3618, at 571-272-6914.

Official correspondence should be sent to the following TC 3600 Official number as follows: 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

gbklebe / Art Unit 3618 / 8 December 2005

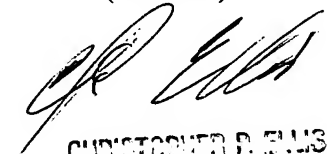
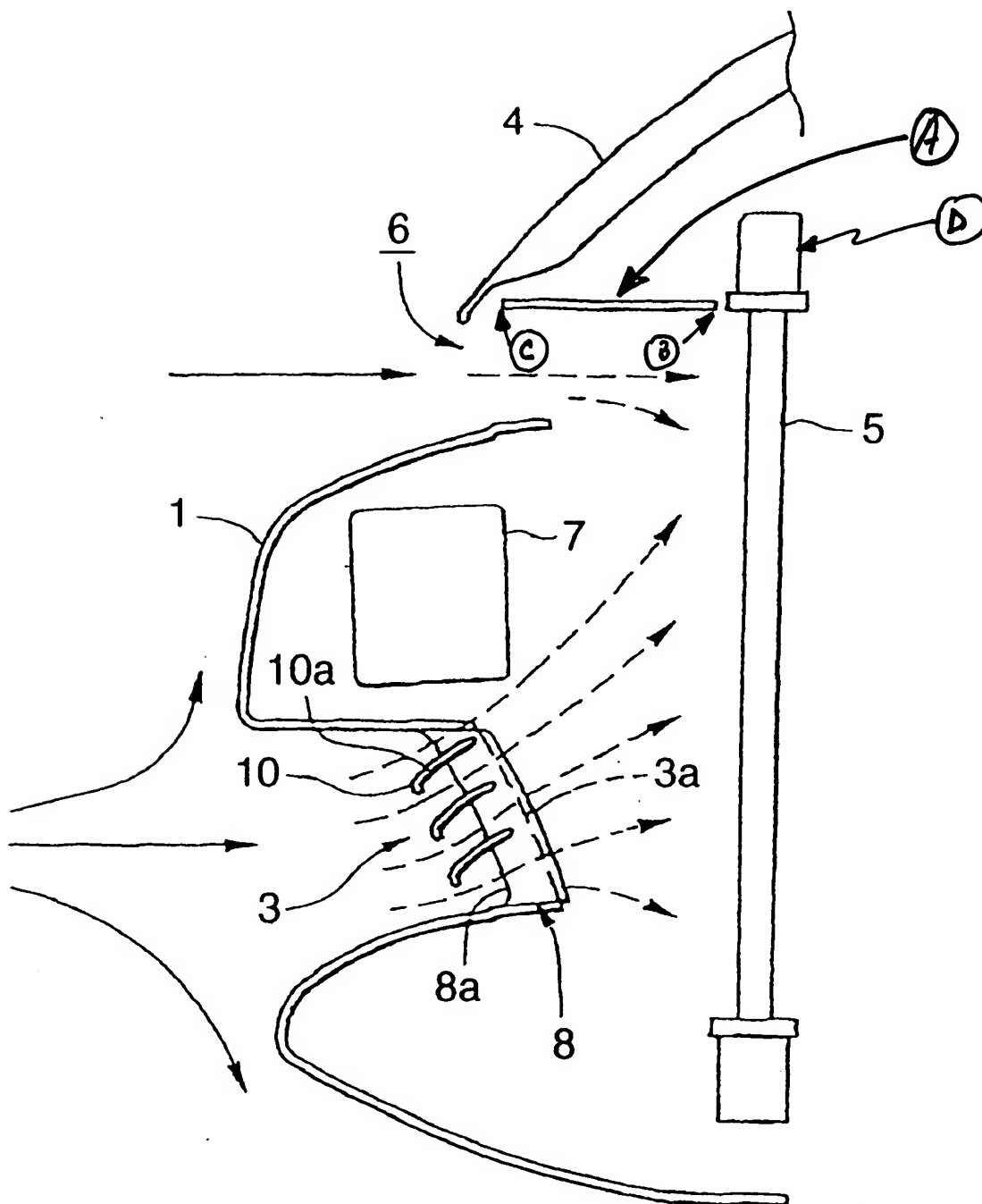

CHRISTOPHER P. ELLIS
SUPERVISORY PATENT EXAMINER
ART UNIT 3618

FIG. 3



RE: S/N 10/634257. EXAMINER'S MARK-UP OF FIGURE 3 OF USPAT 6,405,819B1 IN PARTIAL EXPLANATION OF REJECTIONS FOUND IN OFFICE ACTION DATED 8 DEC 2005.